Raising Chickens

Introduction

Chickens have simple needs, food and water, adequate shelter and space, and protection from predators. Left to their own devices, allowed to roam free range style, chickens can manage on their own but suffer from an incomplete diet and are often snagged by predators. Introducing soft management practices to a family or village flock yields of both eggs and meat can increase significantly.

The Pecking Order

Chickens are flocking animals, naturally driven to stay together they maintain strict organization through a pecking order. At the top of the pecking order is the “top bird”, usually an older, aggressive hen. The rest of the flock will defer to her. Each time a new bird is introduced into the flock, the pecking order is re-established. This establishment of the pecking order is hard on birds, stressful and sometimes results in small wounds that are portals for disease. Maintaining the integrity of the flock is important. Avoid changes to the flock whenever possible. When you do introduce a new bird, do it at night when the chickens are most docile.

Chicken Characteristics and Breeds

Characteristics- Combs, wattles and ear lobes**:** The fleshy appendages on the head and below the beak function as the chicken’s cooling system. Chickens cannot sweat, so their bodies circulate blood through the comb and wattles to allow heat to radiate off their bodies. Different breeds of chickens have different types of combs. Single combs and double combs stand upright and are highly serrated. Pea combs and cushion combs are compact and sit small and tight just above the chicken’s beak. Breeds with large combs and wattles are better able to handle temperate heat. In most cases, ear lobe color indicates the color of egg the chicken will lay. If a hen has a white earlobe, she will lay white eggs. Red earlobes indicate brown eggs.

Breeds- Not all breeds of chickens are suited for the harsh temperate climates of tropical regions. The following breeds of chickens are well suited to small flock practices; they are dual purpose in that they are equally good producers of eggs and mature quickly for quick turn-over as meat product. These breeds are also well suited to a family or village system of flock management where chickens are allowed to free-range or scavenge during the day and offered protective housing at night. They are hardy, yet easily caught or herded into their pens at night. These breeds have shown consistently high resistance to disease, particularly Newcastle Disease, the number one cause for flock failure in Africa.

Tam Hoang and Luong Phuong are both large brownish red chickens that were developed in China specifically for the Village or free range style of farming. Both of these breeds are highly resistant to disease. They mature quickly and can be at market weight of 2 kg in 3 to 3.5 months. If kept for egg production they will lay up to 200 – 250 eggs by their second year. Egg production will diminish as the hen approaches her 4th or 5th year.

Sasso Chickens are a hardy breed well suited to scavenger or free range practice. They are highly disease resistant. The Sasso is a large red bird with white spots that was developed in France. It can reach market weight of 2 kg within 2 months.

The Plymouth or Plymouth Rock was developed in the United States and comes in a variety of colors. This breed is well suited to either egg or meat production but has the advantage of being highly prized for its cape or neck feathe for fly-fishing or feather craft. The breed can free range, bu does well housed in portable housing so that it can scratch but is protected from predators. This breed is slightly smalle and reaches market weight of 1.8 kg in about 2.5 months.

Hydro, Hubbard and Arbor Acres Chickens are all hybrids specifically developed in the United States to meet both the egg and meat market. They are a moderately heavy breed 2 kg at market weight and mature very quickly from 7 to 8 weeks. They are not quite as resistant to disease as the Tam Hoang, Luong Phuong or Sasso, but do very well in large village operations were housing is provided and access to inoculations offer protection from I

Isa Browns were developed in France and are known for very high egg production, producing as many as 300 eggs in the first year. They are a smaller bird reaching market weight of 1.6 kg in 5 months.

Leghorns are a one of the hardiest of the multi-purpose breeds developed in the United States. They come in a variety of colors although the white Leghorn is the most common. They are somewhat disease resistant

and do well savaging or free-range with protection from predators at night. The Leghorn reaches market weight of 1.5 kg at approximately 5 months.

Newcastle's Disease

A major constraint to village chicken production is a devastating incident of Newcastle's Disease. Newcastle's Disease (ND) is also known locally as Konoku and can cause 100% mortality in unprotected flocks. Often ND virus is endemic and a great discouragement to farmers, but intervention can be cost effective with vaccination. Newcastle's Disease is caused by a paramyxovirus, primarily effecting chickens but can also affect other poultry such as turkeys or pigeons. Incubation is generally 4 to 5 days from contact until symptoms are present. The disease is spread through respiratory inhalation, and by coming in contact with secretions from diseased birds. The virus is able to survive up to one month in the feces of infected birds.

Symptoms

Symptoms can vary, even to the extent that a diseased bird can die without showing any signs of disease. Symptoms may include:

- Fluffed feathers or an appearance that the bird is dragging its plumage
- Lethargy and loss of appetite
- Respiratory distress ranging from mild rales to gasping
- Swelling of the head and neck
- Greenish diarrhea
- Marked reduction in egg production and/or eggs may be deformed

Prevention

Vaccine is an effective method for controlling ND, but it is important to vaccinate the entire flock as the vaccine prevents the disease, but not the infection. New birds introduced into the flock can be susceptible. Timing is also important. ND tends to be seasonal and timing the vaccination program approximately one month before an expected outbreak can be very effective. A follow-up inoculation will be needed within three months of the initial vaccination. Heat stable vaccines should be considered for village flocks where it is hard to maintain a cold-chain during transportation of the vaccine. Heat stable or thermostable vaccines are available for a variety of inoculations; feed based, water based, ocular drops or syringe- injections. Ocular drops are often preferred for village flocks appearing to provide the highest protection, but there are new developments in this field and different types of vaccine are more readily available in some areas than others. When implementing a vaccination program it is sometimes helpful to have it coincide with a school holiday so that children can help with capturing and holding the birds during vaccination. Consider a way to identify the birds who have received the vaccination from those that haven't, so that birds don't inadvertently get a

double dose of vaccine. Costs vary, but a full vaccination program may run from 10 – 45% of the sale profit of a healthy bird.

Value of Collaborative Village Efforts

Collaborative efforts among village poultry farmers can significantly increase the effectiveness of the inoculations and lower the cost by purchasing the vaccine as a group. Planning for follow-up vaccines within three months, to accommodate for changing flocks and newly hatched chicks, is more effective if a number of village poultry farmers can jointly schedule a time for follow-up inoculations. Collaborative efforts also seem effective when engaging a local livestock official. These officials, whose duties are often concentrated on larger livestock, prefer to do group work and are more inclined to help if village chicken farmers engage their help as a collective. Sharing information among village farmers can also pinpoint when outbreaks might occur and provide valuable information about new birds or threats coming into the system.

Conclusion

The control of ND can contribute a great deal to improve village poultry production leading to improved household food security and poverty alleviation. Collaborative efforts among village poultry farmers can allow for data collection, lower the cost of ND Vaccinations, and better link farmers with local livestock or extension services.

Composting Chicken Manure

A chicken will produce approximately 1 cubic foot of manure every six months. If left to accumulate in the chicken coop, manure will attract rodents and flies. The smell is unpleasant and contains high ammonia content, which is unhealthy for the penned birds. Chicken manure, or chicken manure compost, is an excellent additive to poor soils. A natural fertilizer, chicken manure provides Nitrogen, Phosphorus and Potassium to your plants. Composting the chicken manure will add organic matter and increase the water holding capacity of the soil.

To compost chicken manure:

1) Collect the chicken manure from the chicken coop at least once a week. Birds that are tightly confined may need to be cleaned more frequently. Put the chicken manure in a compost site located away from housing.

2) A rich, nourishing compost is created by adding 3 parts “brown” material, (dry leaves, dead plant material or vegetable food waste such as peels or stems) to 1 part ‘green” material chicken manure). It is good to use “brown material that is not all the same size. The will form natural air pockets in the compost pile which will aid decomposition.

3) Mix the plant material and the chicken manure together and pull the mixture into a pile. Keep the compost pile small, no larger than a cubic yard. The mixture should be moist, not soggy but damp. The combination of ingredients with the chicken manure will heat up the pile with the interior of the pile reaching between 130 – 150 degrees. Allow this temperature to remain undisturbed for approximately 3 days. This will destroy any unknown pathogens from the chicken or waste material.

4) After three days of composting, with temperatures at the center of the pile reaching above 130 degrees, pull the compost pile apart, breaking up the core and raking the center materials to the outside and the outer materials be allowed to compost at the center. Repeat this process at least three times.

5) Let the pile cure or sit for 45 to 60 days before use. The compost is ready when most of the material is dark brown-black in color, crumbly and smells like rich soil.

6) Consider having more than one compost pile, so that one pile can be in the hot composting stage, while one is in the curing stage. A third pile of dry leaves or organic matter could be collected and ready for the next accumulation of chicken manure.

7) Spread the finished compost over gardens and fields to add nitrogen and organic matter back into soils that have been depleted of nutrients.

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